

AMENDMENTS TO THE SPECIFICATION

Please replace the paragraph beginning on line 12 of page 13 with the following replacement paragraph:

The catalytic target structure 110 is preferably shaped to allow for substantially maximum surface area, while limiting the angle of incidence of the ultraviolet photon energy being directed at the target structure 110. For example, a repeating V-shaped geometry in a ridged or pleated design allows for both a correct ratio of open area to closed area as well as maximizing the surface area of the catalytic target 110 that will be exposed for reacting with the ultraviolet light energy and the surrounding environment. As shown in FIGS. 1 and 2, the repeating V-shaped geometry of the surface of catalytic target structure 110 may have a plurality of V-shaped ridges or pleatings. The plurality of V-shaped ridges or pleatings may include apexes formed by panels of catalytic target structure 110 that converge to point away from the ultraviolet light energy source 204 and tips formed by panels of catalytic target structure 110 that converge to point towards the ultraviolet light energy source 204. Further, the plurality of holes 112, 114 may be arranged in rows so that one or more rows of holes 112, 114 extend linearly in a longitudinal direction along the length of each panel forming the apexes and tips of the plurality of V-shaped ridges or pleatings. Also, a plurality of holes 114 may be arranged in rows extending along each of the apexes formed by the panels of the catalytic target structure 110. The longitudinal direction of each of the panels that form the apexes and tips of the plurality of V-shaped ridges or pleatings may be parallel to a longitudinal direction of the ultraviolet light energy source 204. A repeating V-shaped geometry can, of course, be changed or altered to

other geometries to accommodate alternative manufacturing requirements, new available manufacturing techniques, textured or faceted surface impingements, rounded or wavy target structures, air or fibrous material, or in general any suitable structure that increases available surface area for the hydrophilic catalytic material to react with the ultraviolet light energy and the surrounding gasses. The PHI cell 100 structure may also be altered from the preferred embodiment to conform to specific structural requirements due to particular applications, as should be obvious to those of ordinary skill in the art in view of the present discussion. For example, large or custom PHI cells may require different structural requirement in particular applications.